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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/087,877	03/01/2002	David R. Ohm	51040.P025	6251

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EXAMINER

MEYER, DAVID C

ART UNIT	PAPER NUMBER
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2878

DATE MAILED: 03/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/087,877

Applicant(s)

OHM ET AL.

Examiner

David C. Meyer

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 January 2004.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,7-12,15,16,19 and 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,7-12,16 and 19 is/are rejected.
- 7) ☒ Claim(s) 4,5,15 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claim 20 is objected to because of the following informalities: "the house" is recited without proper antecedent basis. It is preferred that "house" be replaced with "housing".

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 3, 7, 8, 11, 16, and 19 stand rejected under 35 U.S.C. 102(b) as being anticipated by Ackerman (US 5,181,216).

Regarding claim 1, Ackerman discloses a "photonics module apparatus" comprising:

- a cover member 13 and mounting member 12, which together form a housing
- a laser 15, having a first output 16 and a second output 17
- a reflective surface 30 constituting an interior side wall of the housing formed by cover member 13 and mounting member 12, and disposed angularly relative to the second output 17 of the laser
- a photodetector 21, which receives light from laser 15 that has reflected from surface 30

Art Unit: 2878

See Figs. 1 and 3 and column 2, line 50 to column 3, line 13.

Regarding claim 2, the apparatus receives electrical signals and outputs optical signals via laser 15. The "Background" section of Ackerman describes the use of photonics packages in optical communications systems, wherein received electrical signals trigger the transmission of optical signals. In light of the foregoing, it would seem accurate to call the apparatus of Ackerman a transponder.

Regarding claim 3, mounting member 12 constitutes a substrate with an exterior surface 30, angularly disposed relative to the second output 17, and that reflects light from the second output to the photodetector 21. As written, claim 3 does not make clear relative to what the "substrate" is "elevated", only that an exterior surface of the substrate is angularly disposed relative to the recited second output. Hence, the meaning of "elevated" is ambiguous and could be interpreted to mean "having height". Because mounting member 12 clearly has height, Ackerman is deemed to fully anticipate claim 3, in its current form.

Regarding claims 7 and 8, the front facet of laser 15 provides a first light output 16 while the back facet provides a second light output 17 (Fig. 3).

Regarding claim 11, Ackerman states that surface 30 is "metallized" to constitute a mirror (column 3, line 3). This implies the application of a reflective metallic coating to surface 30.

Regarding claims 16 and 19, the apparatus of Ackerman performs all of the recited steps as evidenced by the foregoing discussion.

Claim Rejections - 35 USC § 103

Art Unit: 2878

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 9, 10, and 12 stand/are rejected under 35 U.S.C. 103(a) as being unpatentable over Ackerman.

Regarding claims 9 and 10, Ackerman does not disclose that the photodetector 21 is a PIN photodiode. PIN photodiodes are widely used. Absent any showing of criticality, to use a PIN photodiode photodetector would have been obvious to one of ordinary skill in the art at the time of invention, as it is well known to do so. *because . . .*

Regarding claim 12, Ackerman discloses the invention as claimed except for the TiO₂ reflective coating. Ackerman discloses a "metallized" coating on surface 30 to constitute a mirror. This would not seem to exclude the possibility of using titanium dioxide pigment. Absent any showing of criticality, the manner of reflective coating

Art Unit: 2878

applied to create the recited "reflective surface" would have been obvious to one of ordinary skill in the art at the time of invention, in view of the desired system cost and performance requirements.

Allowable Subject Matter

6. Claims 4, 5, 15, and 20 are objected to as being dependent on a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: Regarding claims 4 and 5, the prior art of record does not disclose or fairly suggest the invention as claimed wherein, in addition to the other claimed features, the photonic package "further comprises a reflective mirror to angularly reflect the second output". Regarding claim 15, the prior art of record does not disclose or fairly suggest the invention as claimed wherein, in addition to the other claimed features, the photonic package "further comprises a second reflective surface to deflect the second output to the interior surface [of the housing]". Regarding claim 20 the prior art of record does not disclose or fairly suggest the method as claimed wherein, in addition to the other claimed steps, a reflective mirror is provided in the photonic package, the mirror disposed "such that it reflects the second output of the semiconductor light source to [the] reflective interior surface of the [housing], for reflection to [the] photodetector".

Response to Arguments

7. The following remarks are made in reply to the Applicant's Response received on January 2, 2004.

Art Unit: 2878

Cancellation of claims 6, 13, 14, 17, and 18 is acknowledged. The objection to the drawings for failing to show features recited in claims 13, 14, 17, and 18 is overcome.

The objections to claims 15 and 16 due to minor informalities are overcome by the current amendment.

Independent claims 1 and 16 are not put in condition for allowance by the current amendment for the following reasons: In the previous Office Action, claims 5, 6, and 20 were indicated to contain allowable subject matter. In amending claims 1 and 16, the Applicant has failed to include all of the limitations of the objected to claims, the base claims and all intervening claims. Claims 5 and 6 depend from claim 4, which recites a mirror that is optically coupled to a(n) side wall/interior surface of a cover of the housing. Claim 20 recites a reflective mirror disposed to reflect the second light output to a reflective interior surface of the housing.

In Ackerman, reflective surface 30 could be called a side wall surface of the housing formed by mounting member 12 and cover member 13. What Ackerman lacks is an additional mirror optically coupled to reflective surface 30. In Yang, more than one reflecting surface is disclosed, including mirror 34 and surfaces 64-66 of the integrated reflector-photodetectors. What Yang lacks is a housing. Hence, Yang does not teach that one of the reflecting surfaces is constituted by an interior surface of a housing.

The rejection of claims 16 and 19 under 35 U.S.C. 102(b) in view of Hamerslag are overcome. Hamerslag does not disclose a housing and, therefore, does not disclose

Art Unit: 2878

to provide a reflective surface that is constituted by a reflective interior surface of a housing, as required by claim 16.

The rejections of claims 1-4, 7-10, 15, 16, and 19 under 35 U.S.C. 103(a) in view of Yang and of claims 13, 14, 17, and 18 under 35 U.S.C. 103(a) in view of Yang and Levinson are overcome. Yang does not disclose a housing and therefore, does not disclose that the reflective surface for reflecting the second light output is constituted by a reflective side wall or interior surface of a cover of a housing.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Art Unit: 2878

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Meyer whose telephone number is 571-272-2442. The examiner can normally be reached on M-F 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DCM
March 11, 2004



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